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10/581,483	06/02/2006	Stephane Getin	291501US2PCT	3589
22850	7590	08/27/2007	EXAMINER	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			ROJAS, OMAR R	
			ART UNIT	PAPER NUMBER
			2874	
			NOTIFICATION DATE	DELIVERY MODE
			08/27/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/581,483

Applicant(s)

GETIN ET AL.

Examiner

Omar Rojas

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) 31 and 32 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 17-19 and 24-30 is/are rejected.
- 7) ☒ Claim(s) 20-23 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 June 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 09/05/2006.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- ☐ Notice of Informal Patent Application
- ☒ Other: Detailed Action.

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of the invention of Group I (claims 17-30) in the reply filed on 08/12/2007 is acknowledged. The traversal is on the ground(s) that "a search and examination of the entire application would not place a *serious* burden on the Examiner, whereas it would clearly be burdensome on Applicants to be required to file, prosecute, and maintain separate applications and patents on the identified." This is not found persuasive because applicant's traversal is based upon restriction practice. As clearly stated in MPEP § 1893.03(d), "unity of invention (not restriction) practice is applicable in international applications (both Chapter I and II) and in national stage applications submitted under 35 U.S.C. 371." The unity of invention rules as outlined in MPEP § 1850 do not discuss or mention burdens upon examiners or applicants as a basis for holding unity of invention or a lack thereof. Accordingly, applicant's traversal of the holding of lack of unity cannot be considered persuasive. The requirement is still deemed proper and is therefore made FINAL.

2. Claims 31 and 32 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 08/12/2007.

Priority

3. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

4. The prior art documents submitted by applicant(s) in the Information Disclosure Statement(s) ("IDS") filed on 09/05/2006 have all been considered and made of record (note the attached copy of form(s) PTO-1449).

Specification

5. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Objections

6. Claim 22 is objected to because of the following informalities: Claim 22 recites the limitation "the waveguides" in line 1. There is insufficient antecedent basis for this limitation in the claim. Appropriate correction is required.

7. For purposes of this examination, claim 22 is assumed to be dependent upon claim 18.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. **Claims 17-19 and 24-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over the article published in the Japanese Journal of Applied Physics titled "Optically Induced Meandering Mie Particles Driven by the Beat of Coupled Guided Modes Produced in a Multimode Waveguide" by Tanaka et al. ("Tanaka").** The Tanaka article was submitted by applicant(s) in the IDS.

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In re claim 17, Tanaka discloses a method for concentrating particles (i.e., polystyrene beads),

a) placing the particles close to and/or on at least one waveguide of a spacer/substrate (Figure 1); and

b) injecting laser light radiation into the waveguide, the injecting causing grouping of particles into plural clusters on the waveguide (Figures 3 and 4). *See also* pages L260-L262 of Tanaka.

In re claim 19, the light radiation disclosed by Tanaka inherently forms one or more stationary waves because Tanaka's device has the same claimed physical structure.

In re claims 24 and 26-29, the particular limitations are clearly apparent from Tanaka's disclosure at page L260.

Thus, Tanaka only differs from claims 17, 19, 24, and 26-29 in that Tanaka does not disclose step (c) of claim 17 (i.e., "concentrating or blocking particles into one or plural stationary clusters"). However, it is clear from Tanaka that stationary particle clusters can be formed by simply halting the movement of the particles at one of the specified time intervals shown in Figures 3 and 4. It has been held that the omission of an element and its function is obvious if the function of the element is not desired. *Ex parte Wu*, 10 USPQ 2031 (Bd. Pat. App. & Inter. 1989). See also *In re Larson*, 340 F.2d 965, 144 USPQ 347 (CCPA 1965). In the case at hand,

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eliminating the movement of Tanaka's particles at one of the specified time intervals would result in the claimed invention. Accordingly, it would have been obvious to one of ordinary skill in the art at the time of the claimed invention to obtain the invention specified by claims 17, 19, 24, and 26-29 in view of Tanaka combined with rationale provided by the *Wu* and *Larson* courts.

In re claim 18, Tanaka further differs from the claim in that Tanaka does not disclose the spacer/substrate includes plural waveguides. However, mere duplication of parts has no patentable significance unless a new and unexpected result is produced. *In re Harza*, 274 F.2d 669, 124 USPQ 378 (CCPA 1960). In the case at hand, applicant's disclosure does not set forth any new or unexpected result from using plural waveguides instead of a single waveguide. Accordingly, it would have also been obvious to one of ordinary skill in the art at the time of the claimed invention to obtain the invention specified by claim 18 in view of Tanaka combined with rationales provided by the *Wu*, *Larson*, and *Harza* courts.

In re claim 25, Tanaka further differs from the claim in that Tanaka does not disclose glass and/or gold balls. However, substituting equivalents known for the same purpose has been held as unpatentable. *In re Ruff*, 256 F.2d 590, 118 USPQ 340 (CCPA 1958). In the case at hand, glass or gold balls are known to be equivalent in a functional sense to the polystyrene latex beads disclosed by Tanaka. See, for example, Patent No. 4,945,050 to Sanford et al. at column 6, lines 17-44. Accordingly, it would have also been obvious to one of ordinary skill in the art at the

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time of the claimed invention to obtain the invention specified by claim 25 in view of Tanaka combined with rationales provided by the *Wu*, *Larson*, and *Ruff* courts.

In re claim 30, Tanaka further differs from the claim in that Tanaka does not disclose stopping the laser light as soon as a cluster is formed. However, as mentioned with respect to claim 17, eliminating the movement of the Tanaka's particles is considered obvious. In order to eliminate such movement, Tanaka's laser would have to be shut off. Since different particle clusters appear to be formed at each of the time intervals shown in Figures 3 and 4 of Tanaka, claim 30 is not considered patentable for the same reasons mentioned with respect to claim 17 (i.e., eliminating an element and its function is obvious when the element and its function is no longer desired).

Allowable Subject Matter

10. Claims 20-23 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

11. The following is a statement of reasons for the indication of allowable subject matter:

With respect to claims 20 and 21, in the examiner's opinion it would not have been obvious to modify Tanaka to use a diffraction grating or an optical loop for producing the stationary waves.

With respect to claim 22, in the examiner's opinion it would not have been obvious to modify Tanaka to use plural waveguides joined together in at least one point and forming a single cluster at the point. With respect to claim 23, in the examiner's opinion it would not have been obvious to modify the optical index of Tanaka's particles prior to their placing them on the waveguide.

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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Omar Rojas whose telephone number is (571) 272-2357. The examiner can normally be reached on Monday-Friday (9:00PM-5:00PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rod Bovernick, can be reached on (571) 272-2344. The official facsimile number for regular and After Final communications is (571) 273-8300. The examiner's RightFAX number is (571) 273-2357.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Omar Rojas/
Patent Examiner, Art Unit 2874

or
August 20, 2007